

NOVAK, I.

Hungarian Technical Abst.
Vol. 6 No. 1
1954

38. The detection of leakage in telecommunication cables — *Híradástechnikai közlemények szigetelési hibák felismeréséről* — I. Novák. (Telecommunication Engineering) *Magyar Híradástechnika* — Vol. 4, 1953, No. 1, p. 147, 6-8, 3 figs.)

The leakage resistance of telecommunication cables in good condition is at least 10,000 MΩ/km. Even the slightest water seepage can cause serious disturbances. Two fault indicating methods are described one of which utilizes the generation of oscillation and the other the cessation of oscillation. With both methods a glow discharge tube is used, the leakage resistance of the cable starts and cuts off or damps the oscillations, respectively. Frequency is the measure of leakage resistance in both cases.

Gy. P.

CONSTANTINESCU, E., ing.; MILITARU, P., ing.; GROZA, L., ing.; GROF. F., ing.
(R.S. Cehoslovaca); NOVAK, I., ing. (R.S. Cehoslovaca)

Interconnection at 400 kv. between the electric power systems of
Rumania and Czechoslovakia. Energetica Rum 11 no.3:130-137 Mr '63.

HOLLO, M.; NOVAK, I.

Effect of sexual hormones on seborrheal alopecia. Orv.hetil. 91
28:892-894 9 July 50. (CIAML 20:7)

1. Skin and Venereal Diseases Clinic (Director--Dr. Tamas Ravnay),
Pharmaceutical Institute and University Pharmacy (Director--Dr.
Lajos David), Szeged University.

NOVAK, I.

Comparative study on the absorption by the skin of atropin sulfate ointments with and without saponin. Gyogyasz 8 no. 2:35-38 Feb 1953. (CLML 23:5)

1. Doctor, Lecturer. 2. Pharmaceutics Institute and University Pharmacy (Director -- Prof. Dr. Lajos David), Szeged Medical University.

1. 1.

HEINZ, A.; KUNZE, I. "Hydraulic engineering and sanitation in the mining industry."
Uhli, Praha, Vol 4, No 1, Jan. 1964, p. 1.

SO: Eastern European Accessions List, Vol 3, No 1, Oct 1964, Lit. of Congress

I. NOVAK, Gargulak, M., B. Korda

Prirucka statistiky pro pracovníky v uhelném průmyslu (A Statistical Handbook for Workers in the Coal Industry). p. 38.
(Uhlí, Vol. 7, no. 1, Jan. 1957, Praha, Czechoslovakia,)

SC: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec. 1957.
Uncl.

NOVAK, I.; HANAK, A.

"Control of terrain, drainage of wuarries, and reclamation work in the mining industry." p. 5h.

TECHNICKA PRACA. (Rada vedeckych technickych spolocnosti pri Slovenskej akademii vied). Bratislava, Czechoslovakia, Vol. 7, No. 2, 1955.

Monthly list of East European Accessions (EEA1), LC, Vol. 8, No. 6,
August 1959.
Uncia.

NOVAK, I.; MOUCHA, J.

"Phytometrinae of the Western Carpathians (Lep. Phalaenidae)."

SBORNIK FAUNISTICKYCH PRACI. ACTA FAUNISTICA ENTOMOLOGICA, Vol. 1, 1956
Praha, Czechoslovakia

Monthly list of EAST EUROPEAN ACCESSION INDEX (EEAI), Library of Congress,
Vol. 8, No. 7, July, 1959

Unclassified

NOVAK, I.

NOVAK, I.

Setting-up the hull assembly on planks. Mer. i rech.flet 14 no.6:
24 Je '54. (KERA 7:7)
(Hulls (Naval architecture))

SOV-25-58-10-5/48

AUTHOR: Novak, I., Academician, Head of the Czechoslovak Committee
for the International Geophysical Year

TITLE: A Thousand Observations in Connection with Soviet Sputniks
(Tysyacha nablyudeny za sovetskim ISZ)

PERIODICAL: Nauka i zhizn', 1958, Nr 10, pp 8 - 9 (USSR)

ABSTRACT: The author gives a detailed description of Czech achievements in the field of geophysics with special regard to the International Geophysical Year. He mentions successful photographs of sun spots, investigations of both the luminescence of the sky during the night and the upper layers of the atmosphere, measurements of vibrations of the earth's crust as well as seismological and earth magnetic studies. In this connection, the launching of sputniks by the USSR plays a very important part, in that it was possible for the Astronomical Observatory of the Slovak Academy of Sciences to obtain especially good and reliable results in many geophysical measurements. There is 1 photo.

1. Geophysics--Czechoslovakia

Card 1/1

NOVAK, Istvan, biro

Some questions relating to Hungarian law culture. Borsod szemle 7
no.1:33-36 '63.

ACCESSION NR: AP4012283

S/0070/64/009/001/0113/0115

AUTHORS: Tscoufova, P.; Arend, G.; Novak, I.

TITLE: Some crystallochemical and physical properties of single barium titanate crystals with addition of cobalt

SOURCE: Kristallografiya, v. 9, no. 1, 1964, 113-115

TOPIC TAGS: barium titanate, cobalt doped barium titanate, physical properties, absorption spectrum, dielectric constant, ceramics, V color center

ABSTRACT: Chemical analysis has shown that Co ions replace Ti ions in the BaTiO_3 lattice and that for the most part they occur in bivalent form. A peak of 0.52 microns was observed on the absorption spectrum. This belongs either to a V color center or to a Co ion with higher valence. The introduction of Co ions into the BaTiO_3 lattice leads to displacement of the absorption edge. It also very strongly affects phase transitions in BaTiO_3 . It is impossible to inject the large quantities of Co into BaTiO_3 ceramic material that are injected into single crystals. This difference in behavior may be explained by the presence of F ions in the single crystals. The authors' measurements on the physical

Card 1/5

ACCESSION NR: APL012283

properties of BaTiO_3 with addition of Co are summarized in Figs. 1-3 of the Enclosures. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Fizicheskii institut ChSAN, Praga (Physics Institute ChSAN)

SUBMITTED: 21Mar63

DATE ACQ: 19Feb64

ENCL: 03

SUB CODE: PH

NO REF SOV: 001

OTHER: 006

Card 2/3

L 46323-65

ACCESSION NR: AP5011882

UR/0120/65/000/002/0118/0121

AUTHOR: Novak, I.

TITLE: "Tandel" electrometer

SOURCE: Priboj i tehnika eksperimenta, no. 2, 1965, 118-121

TOPIC TAGS: electrometer, tandel electrometer, avometer

ABSTRACT: A new avometer based on a tandel electrometer action is described. The tandel (temperature-autostabilizing nonlinear dielectric element) in the form of a 1 mm-square, 0.1 mm-thick plate of triglycine-sulfate has a resistance of about 10 Tohms. The peak-to-peak voltage across the "tandel" is measured. It depends on the waveshape distortion which, in turn, depends on the applied measurand. A laboratory model of the avometer had these parameters: input resistance, over 1 Tohm; input dynamic capacitance, 150 pf (or 50 pf in the latest improved model); maximum sensitivity, 80 mv per full scale; zero-point

Card 1/2

L 46323-65

ACCESSION NR: AP5011882

0

drift, 100 mv/hr (or 10 mv/hr in the latest model); voltage ranges: 0.1, 0.3, and 1 v;
13 current ranges within 10^{-11} — 10^{-5} amp; 13 resistance ranges within
1.2 Mohms—10 Tohms; working temperature, +10 - +28C. "The author wishes to
thank Ye. Rekhitsigel, Z. Malek, and Y. Mastner for their valuable discussions;
F. Moravets and Y. Novotnyy for their careful preparation of the tandel; and
M. Kotsian for his help in building the electrometer model." Orig. art. has:
3 figures. [03]

ASSOCIATION: Fizicheskiy institut ChSAN (Institute of Physics, ChSAN)

SUBMITTED: 12Mar64

ENCL: 00

SUB CODE: EC

NO REF SOV: 000

OTHER: 009

ATD PRESS: 4002

Card 2/2

NOVAK, L.; POSPISIL, M.; HOSEK, B.

Relationship of radiosensitivity to the rate of growth. Folia
biol. (Praha) 11 no.2: 147-155 '65.

1. Institute of Biophysics, Czechoslovak Academy of Sciences,
Brno,

Color reactions of cholesterol, ergosterol, vitamin D and follicular hormone. Istvan Novak. *Rev. Angew. Pharm.* 13, 464-70 (1977). Color reactions obtained with H_2SO_4 , the reagents of Salkowski, Liebermann-Burchard, Gmelin, glacial acetic acid + H_2O , sulfuric acid + $CaCl_2$, acetic acid + Na , chloro-p-toluenesulfonamide, resorcinol + H_2SO_4 , vanillin + H_2SO_4 , etc., are described in detail. S. S. de Finily

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
COMMON ELEMENTS																			
COMMON MATERIALS																			
COMMON TESTS																			
04 17 Solution of posterior pituitary and separation of the active components, α- and β-hypophamias. <i>IMYNA Novak. Magyar Gyógyszerészet. Társulat Értesítője 16, 73-81 (1967).</i>—Treat the acetone ext. of posterior pituitary with water contg. 0.25-0.5% AcOH and remove protein by any of various methods. Sep. α- and β-hypophamine by means of org. solvents (e. g., ether or benzene) which dissolve them in different ratios. Standardize the finished preps. by (1) bioassay on the surviving uterus of guinea pigs for α-hypophamine or increase of blood pressure in dogs for β-hypophamine, (2) measurement of the antidiuretic effect or (3) observation of melanophore effect on frogs. S. S. de Fialdy																			
ADD-SEA METALLURGICAL LITERATURE CLASSIFICATION																			
FROM SOURCE										FROM SOURCE									
1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									

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1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
PROCESSING AND PROPERTIES INDEX																			
01										17									
Examination of natural camphor and camphor oil Lajos David and Istvan Kovacs. <i>Magyar Gyógyszerészet Tudományi Értékelő</i> 15, 344-7 (1944). A method is de- scribed for detn. of d. of camphor. For natural camphor the range of d_{20} should be 0.944-0.946. Natural camphor in concd. sulfuric acid is colorless or slightly yellow; syn- thetic camphor has a definite yellow color. Two g. pure camphor is completely dissolved by 20 cc. fuming HCl. synthetic camphor is almost insol. Also the vanillin-HCl. H₂SO₄ color test is recommended. For the detn. of the camphor content of camphor oil the method of David (Ad. C. A. 23, 1944) is recommended. S. S. de Fina																			
ASM-A Metallurgical Literature Classification																			
1ST GROUP										2ND GROUP									
1 2 3 4 5 6 7 8 9 10										11 12 13 14 15 16 17 18 19 20									

117 AND 118 INDEX										119 AND 120 INDEX									
PROCESSES AND PROPERTIES INDEX																			
6. The acid numbers of the official fractions of the Pharm. Hung. IV. II. István Novák. Magyar Gyógyszerészet. <i>Főosztályi Értesítő</i> 10, 11-15 (1940); cf. C. A. 33, 7495. — In storage for 12 months, the acid number generally decreased, probably owing to the action of alkalies from the green glass containers. The numerical results are tabulated. S. S. de Vinkly																			
433-554 METALLURGICAL LITERATURE CLASSIFICATION																			
117 AND 118 INDEX										119 AND 120 INDEX									
117 AND 118 INDEX										119 AND 120 INDEX									

The preparation of hypophysis hormones. Layan
Novik. *Magyar orvostud. Lapok Füzete* 10,
242 (1940). The best results were obtained by the
heptan- and acetone method in working up the urine of
gravid women or the blood serum of gravid mares. Pre-
vious purification with alk. and alkalies is necessary.
Propus obtained from human pregnancy urine caused a
max. increase of 400% in the ovaries of miniature mice.
Propus from blood serum of gravid mares caused increases
of 1000-1200%. S. S. de Lencz.

ASB 51.4 METALLURGICAL LITERATURE CLASSIFICATION

CSILLAG, I.; NOVAK, I.

Repair of tissue defect of the inferior vena cava with small intestine. Orv. hetil. 93 no. 31:889-892 3 Aug 1952. (CML 23:5)

1. Doctors. 2. Second Surgical Clinic (Director -- Prof. Dr. Endre Hedri), Budapest Medical University.

NOVAK, I., JELLINEK, H., CSILLAG, I.

"A new method of restoring defects in the wall of great abdominal veins." p. 149
(ACTA MORPHOLOGICA ACADEMIAE SCIENTIARUM HUNGARICAE, Vol. 3, no. 2, 1953, Budapest.)

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2,
no. 10, Oct. 1953, Uncl.

NOVAK I.

2nd Depts of Surg. and path, Anat., med. Univ., Budapest. *A new method of restoring defects in the wall of great abdominal veins ACTA MORPHOL. ACAD. SCIENT. HUNG. (Budapest) 1953, 3/2 (149-168) Illus. 16

Histological examination showed that temporary covering of the defect with small intestine, which retains its function, will promote the development of a new veinwall
Authors (IX,5)

SO: Excerpta Medica

Section V

Vol. 7 No. 10

JELLINEK, H.; CSILLAG, I.; NOVAK, I.

Repair of experimental damage of the inferior vena cava with the small intestine. Kiserletes orvostud. 5 no.2:92-96 Mar 1953. (CLML 24:4)

1. Second Surgical Clinic and Second Institute of Pathological Anatomy, Budapest Medical University.

NOVAF, L. (un), mopyel

Humanities and the ... of the ...
Banned ... 35-38 '65.

NOVAK, Istvan, dr.

Surgical treatment of portal hypertension with splenorenal anastomosis by thoracico-abdominal approach. Magyar sebészeti 7 no.4:283-286 Aug 54.

1. A Fovarosai Karolyi Sandor Koskorhas Sebészeti osztalyanak kozlemenye. Forrvas: Gyorgy Ferenc dr.

(HYPERTENSION

portal, surg., splenorenal anastomosis, thoracico-abdom. approach)

(KIDNEYS, blood supply

splenorenal anastomosis in portal hypertension, thoracico-abdom. approach)

(SPLEEN, blood supply

splenorenal anastomosis in portal hypertension, thoracico-abdom. approach)

NOVAK, Istvan, dr.

~~.....~~
Intra-aortal transfusion. Orv.hetil. 96 no.16:444-445 17 Apr 55

1. A Fovarosí Karolyi Sándor Kórház sebészeti osztályának
(Igazgató és osztályvezető főorvos: Lazarits Jenő dr.) Közleménye.
(BLOOD TRANSFUSION,
intra-aortal)
(AORTA,
intra-aortal blood transfusion)

NOVAK, I.; FIALA, Ya. [Fiala, J.]; SHUTKO, Sh. [Sutko, S.]; VLCKOVA, M.
[Vlckova, M.]; SHOUREK, I. [Sourek, J.]; SEJKOROVA, I. [Sejkorova, J.]

Some changes in the donor organism after bloodletting. Probl.
gemat. i perel. krovi 8 no.4:41-46 Ap'63 (MIRA 17:2)

1. Iz Instituta gematologii i perelivaniya krovi (dir. - prof.
Ya. Gorzheyshi [Horejsi, J.], Praga.

DOBRY, E.; NOVAK, I. [Novak, J.]

Plastic materials used in blood transfusion. Probl. gemat. i perel.
Krovi 8 no.9:50-51 S '63. (MIRA 17:9)

1. Iz Instituta gematologii i perelivaniya krovi (dir. - chlen-
korrespondent Chekhoslovatskoy Akademii nauk prof. Ya. Gorzheyshi
[Gorejsi, J.]), Praga.

NOVAK, I.

Development of a free-of-charge blood donor service in
Czechoslovakia. Probl. gemat. i perel. krovi 10 no.1:
57 Ja '65. (MIRA 19:1)

1. Institut gematologii i perelivaniya krovi, Praga.

NOVAK, I.; SEYKOROVA, I.

Changes in the glycocorticoid content of the blood of donors.
Probl. gemat. i perel. krovi 10 no.1:47-50 Ja '65.

(MIRA 19:1)

1. Institut gematologii i perelivaniya krovi (dir. - prof.
Ya. Gorzheyshi), Praga.

_NOVAK, Istvan; BUZAS, Geza; MINKER, Emil; KOLTAI, Matyas; SZENDREI, Kalmár

Crystalline active ingredients of *Ruta graveolens*. Acta pharm.
Hung. 35 no.2:90-95 Mr '65.

11

NOVAK, Ivan, inz.

Projects and designs of settling pools. Rudy 11 no.9:317-320
S '63.

1. Rudny projekt, Praha.

IZAKOVA, Kristina, inz.; HGVAK, Ivan, inz.

Determination of the specific surface of bentonites. Chem
svestl 17 no.12:905-911 '63.

1. Ceskoslovenska akademie ved, Ustav anorganicke' chemie
Slovenskej akademie vied, Bratislava, Lubravska cesta.

NOVAK, Ivo, promovany biolog

Contribution to the protection of germinating sugar beet
against the pybmy mangold beetle (*Atomaria linearis* Steph.,
Col., Cryptophagidae). Rost výroba 9 no.10:1093-1104 (1963).

1. Vyzkumny ustav reparsky, Semice.

NOVAK, I.

USSR.

Intermolecular bonds in liquids. Dependence of infrared absorption spectra of the H bond on temperature and pressure. N. I. Shadrin and I. I. Novak. *Zhur. Tekh. Fiz.* 23, 1485-1491 (1957). -- Absorption spectra were studied in the 1.3-1.7 μ region of pure PrOH , hexyl alc. , heptyl alc. , and nonyl alc. and of phenol of their solns. in CCl_4 and of phenolformaldehyde tar at pressures up to 3200 kg./sq. cm. and temps. 18-48°. The degree of association can be detd. from the intensity of band LLS corresponding to OH groups assoc. by a H bond, and band LAL corresponding to "free" OH groups. A Hilger double spectrophotometer with a PbS cell was used for the expts. The sample was placed under hydraulic pressure in CCl_4 ; however, since CCl_4 crystallizes at room temp. at 1060 kg./sq. cm. , a mixt. of 80% CS_2 and 20% CCl_4 was used at higher pressures. The change of the optical density is $\Delta D = D_0 \alpha \Delta T$ and $\Delta D = D_0 \beta \Delta p$, where α is the thermal expansion and β the compressibility coeff.; $D = k_0 l$, where k_0 is the absorption per bond, c the vol. concn. of bonds, and l the thickness of the sample. For the temps. 20-70° and pressures 1-2000 kg./sq. cm. , k_0 is const. The values of $k_0 \times 10^{-1}$ are 2.76, 2.85, 2.8 and 3.9 sq. cm./mol. , resp., for PrOH , hexyl alc. , heptyl alc. , and phenol. The concn.-dependent const., k , varies with temp. and pressure; this indicates a change in the no. of H bridges. Increased pressure has the same effect as decreased temp. decreasing the no. of free OH groups. A change in temp. of 1° corresponds to 60-130 kg./sq. cm. change. The slope of $(\Delta p / \Delta T)_{k_0}$ is the same as that of $(\Delta p / \Delta T)_c$, where T_c is the crystn. temp.; this indicates that crystn. occurs at equal conditions of mol. interaction.

CA S. Pakshen

7/27

Novak, I.I.

U S S R .

The influence of temperature on the infrared absorption spectrum of polyethylene and rotational isomerism. I. I. Novak, *Zhur. Tekh. Fiz.* 24, 15-24(1954).—Infrared absorption spectra of polyethylene and bicetyl ($C_{12}H_{26}$, m. 70°) were recorded in the neighborhood of the 7- μ line in the temp. range 20-250°. H_2O vapor was eliminated by a stream of dry N_2 . A change in the relative intensity of bands 1370 (cryst.) and 1340, 1350, and 1370 cm^{-1} (liquid) of bicetyl is attributed to rotational isomerism. From the bands the differences in their energy are calcd. by means of a formula derived by Vol'kenstein (*C.A.* 45, 3718g). ΔH (1370, 1350) = 785 ± 80 cal./mole; ΔH (1370, 1370) = 1290 ± 180 cal./mole; ΔH (1370, 1370) = 445 ± 50 cal./mole. The bands 1340, 1350, and 1370 are characteristic for the liquid state of paraffins. Polyethylene was investigated in temp. regions 20-123° (cryst. and amorphous) and 123-250° (amorphous). In both cases bands 1350, 1370, and 1379 cm^{-1} were observed. ΔH (1370, 1350) = 720 ± 70 cal./mole; ΔH (1379, 1350) = 640 ± 70 cal./mole. Both values are close to the theoretical value for polyethylene by V., 600 cal./mole. S. Paksgaard.

Category : USSR/Optics - Spectroscopy

K-6

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2478

Author : Novak, I.I.

Title : Study of Infrared Absorption Spectra of Polyethylene in Connection with the Question of Rotational Isomerism

Orig Pub : Zh. tekhn. fiziki, 1955, 25, No 11, 1854-1860

Abstract : The variation of the infrared spectrum of polyethylene (PE) near μ was studied for a temperature variation in the 20--250° range. Increasing the temperature from 20 to 120° (melting point of the crystalline phase of PE) increases the absorption in the 1350 and 1370 cm^{-1} bands, attributed to the amorphous phase of PE. Raising the temperature from 120 to 250° increases the intensity of the 1350 cm^{-1} band and decreases the intensity of the 1370 cm^{-1} band. It is proposed that the 1350 and 1370 cm^{-1} frequencies correspond to stable and unstable isomers respectively. On the basis of this assumption, spectroscopic data are used to compute the amount of amorphous phase in PE. The data obtained agree with dilatometric and X-ray diffraction data.

Card : 1/1

NOVA, I. I.

NOVA, I. I.--"The Use of Information in the Study of
Certain Types of Interpersonal Interaction." (NOVA, I. I., Director
Physicochemical Institute, Leningrad, U.S.S.R.)
(Directorate of Scientific Research, Leningrad, U.S.S.R.)

NOVA, I. I.
No. 1, October 1977

NOVAK, I. I.

Avoiding the absorption bands of atmospheric water and carbon dioxide vapors in the infrared spectrometer. I. I. Novak and V. M. Filinoy (Leningrad Phys.-Tech. Inst. Acad. Sci. U.S.S.R.). *Optika i Spektroskopiya* 1, 1014-15 (1956).--A relatively simple and generally applicable method is described for avoiding the H₂O and CO₂ absorption bands in infrared spectra. I. Rovtar Leach

NR
MT

NOVAK, I I.

PRIKHOTKO, A F

24(7)

p 3

PHASE I BOOK EXPLOITATION SCV/1365

L'vov. University

Materialy I Vsesoyuznogo sveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 429 p. 4,000 copies printed. (Series: Its: Fizichnyy sbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Jaser, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavitsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitavskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Koyak, I.L., and Ye. S. Solov'yev. Rotational Isomerism and the Effect of Temperature on the Infrared Absorption Spectra of Some Paraffins

419

Postovskaya, A.P., I.A. Salimov, A.S. Kus'minskiy, and V.M. Tatevskiy. Variation in Structure of Sodium Butadiene Rubber in the Process of Light Oxidation

423

Klausen, N.A., and B.A. Dogadkin. Infrared Spectroscopy Used to Study the Interaction of Rubber and Sulfur

428

Klovokhotova, N.A. Study of the Chemical Variations of Tetrafluoroethylene ("teflon") Under the Influence of Ionizing Radiation by Means of Infrared Spectroscopy

430

Kal'son, K.V., and I. Ya. Podubnyy. Spectroscopic Study of the Microstructure of Some Diene Polymers

433

Card 27/30

NOVAK, I. I.

54-4-6/20

AUTHOR: Novak, I. I.

TITLE:

^{Spectra}
The Investigation of Infrared Absorption of Polyethylene in Connection With the Problem of Intermolecular Interaction (Izucheniye infrakrasnykh spektrov pogloshcheniya polietilena v svyazi s voprosom o mezhmolekulyarnom vzaimodeystvii).

PERIODICAL: Vestnik Leningradskogo Universiteta Seriya Fiziki i Khimii, 1957, Vol. 22, Nr 4, pp. 43-50 (USSR).

ABSTRACT:

The influence of expansion, temperature and hardening upon the infrared absorption spectrum of the polyethylene, as well as the influence of temperature on the infrared spectrum of the diacetyl $C_{32}H_{66}$ has been examined. Following results have been obtained: at a rising temperature from 20° to 90° the rate of the doublet separation of the polyethylene decreases at a wave length of 7μ from 9 to 7 cm^{-1} , whereas at a reduction of temperature from 20° to -175°C the rate of the doublet separation for the polyethylene and diacetyl at 7μ is 10 cm^{-1} to 11 cm^{-1} respectively. At an increase

The Investigation of Infrared Absorption Spectra of Polyethylene SW-6/2:
in Connection With the Problem of Intermolecular Interaction.

ned by the interaction of intermolecular oscillations in the crystal
lattice, whereby the rate of doublet separation correlates with the
value of the lattice constant.

There are 7 figures, and 16 references, 4 of which are Slavic.

SUBMITTED: July 12, 1957.

AVAILABLE: Library of Congress.

Card 2/2

NOVAK, I I

AUTHOR: Not given PA - 2873
TITLE: Dissertations (July-December 1956). Department for Physical-
Mathematical Science. (Zashtchite dissertazii. Otdelenie fisiko-
matematicheskikh nauk, Russian)
PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 4, pp 132-132
(U.S.S.R.)
Received: 5 / 1957 Reviewed: 7 / 1957

ABSTRACT: The following dissertations were submitted at the Institute for
Crystallography for the purpose of obtaining the Academic degree
of "Candidate of Physical and Mathematical Sciences:
E.D.DUKOVA: "Experimental Research of the Stratified Spiral Growth
of Crystals of the Gaseous Phase".
At the Physical-Technical Institute:
S.M.RIVKIN: "Investigation of the Behavior of Unbalanced Current
Carriers (Experimental Investigation of the Process of Motion,
Generation, Recombination of Non-Balanced Current Carriers)"
E.I.AGISHEV: "Non-Magnetic Momentum-Mass-Analyzers".
V.G.BOLCHEV: "The Investigation of the Thermoelectronic and Repeated
Electron Emission in the Solid and Liquid State of Brass, Silver,
and Germanium as well as in Tin."

Card 1/2

over

AUTHOR: Novak, I. I.

SCV, 48-28-9-28, 48

TITLE: Study of the Intermolecular Interaction in Polyethylene by Means of Infrared Absorption Spectra (Izucheniye mezhmolekulyarnogo vzaimodeystviya v polietilene pri pomoshchi infrakrasnykh spektrov pogloshcheniya)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 22, Nr 9, pp 1114 - 1116 (USSR)

ABSTRACT: The modifications of the constants of the crystal lattice of polyethylene which occur under the influence of various physical actions lead to a modification of the interaction between neighboring molecules. This circumstance must become manifest in those frequencies of the infrared spectrum which are connected with properties of the crystal lattice. This is a study of the influence of temperature, of stretching and of hardening upon the spectra of infrared absorption of polyethylene. Besides the infrared spectra of dicetyl $C_{32}H_{66}$ the

Card 1/2 crystal lattice of which exhibits a structure similar

Study of the Intermolecular Interaction in
Polyethylene by Means of Infrared Absorption Spectra

SOV/46-72-9-26/46

to that of polyethylene were studied. These infrared spectra of the mentioned substances were investigated with the spectrometers MKC-1 and BMKC-M 3. Prisms made of fluorite and common salt were used. The method of investigation was described already earlier (Ref 4). The results of these investigations can be summarized as follows: The doublet structure of the absorption bands at 7 and 14 μ can be explained according to the theory by Davydov (Ref 9) with the resonance interaction of the oscillations of the CH₂ groups of neighboring molecules in the crystal lattice. In this case the magnitude of the doublet splitting is connected with the constant α of the crystal lattice. There are 12 references, 3 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR
(Leningrad Institute of Physical Engineering, AS USSR)

Card 2/2

NOVAK, I.I., ZHURKOV, S.N., VETEGREN, V.I.

Study of orientation and crystallization of caprone fibers by
infrared microscopy.

Report presented at the 13th Conference on High-molecular compounds
Moscow, 8-11 Oct 62

S/051/63/014/004/016/026
E039/E420

AUTHORS: Vettegren', V.I., Novak, I.I.

TITLE: Calculation of the absorption of a convergent light beam in a plane-parallel plate

PERIODICAL: Optika i spektroskopiya, v.14, no.4, 1963, 545-552

TEXT: Expressions for the flux F and optical density D are derived. From these expressions are obtained numerical values of optical density D and $D_{\perp}$ for different values of the ratio of the aperture to the refractive index N_2A/n (for N_2A/n , $\Lambda = 2.4$), dichroism $k_{||}/k_{\perp}$ and optical density kd corresponding to absorption in a parallel beam. From known values of D and kd and for different values of polarization of the electric vectors $E_{||}$ and $E_{\perp}$ the deviation $\Delta D/kd$ from the law of Lambert-Beer is calculated.

$$\frac{\Delta D}{kd} \cdot 100\% = \frac{D - kd}{kd}$$

Values of $D_{||}/D_{\perp}$, $k_{||}/k_{\perp}$ and $\frac{\Delta D}{kd} \cdot 100\%$ for values of D

Card 1/2

Calculation of the absorption ...

S/051/63/014/004/016/026
E039/E420

N_2A/n from 0.428 to 0.857 are fully tabulated. This shows that the deviation depends strongly on $k_{||}/k_{\perp}$ and $k_{||}d$. For $N_2A/n = 0.572$ and $k_{||}/k_{\perp} = 0.2$ the value of $((\Delta D_{||})/(k_{||}d)) \cdot 100\%$ changes from 60 to 37% with a change of $k_{||}d$ from 0.1 to 1.5. With a change of dichroism $k_{||}/k_{\perp}$ from 0.05 to 20, the value of the deviation with $k_{||}d = 0.5$ decreases from 96 to 4%. A comparison with the results of other workers is made. There are 3 figures and 1 table.

SUBMITTED: June 9, 1962

Card 2/2

NOVAK, I.I.

Determination of the degree of crystallinity of capron with the aid
of infrared spectroscopy. Vysokom.sped. 5 no.11:1645-1652 N '63.
(MIRA 17:1)

1. Fiziko-tekhnicheskiiy institut AN SSSR.

NOVAK, I.I.; VETTERGEN', V.I.

Molecular orientation in capton films studied by infrared spectroscopy. Vysokom. soed. i n. 4:24-29 Ap '64.

(MIRA 1245)

1. Fiziko-tekhnicheskoy institut imeni A.F. Ioffe AN SSSR.

L 16440-65 EWO(j)/EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T/EWA(h)/EWA(l) Pc-4/Pr-4/
 Ps-4/Pt-10/Peb ESD(t)/ESD(gs)/SSD/BSL/AFWL/APGC(b) WW/RM
 ACCESSION NR: AP4044886 S/0020/64/157/006/1431/1433

AUTHOR: Zhurkov, S. N. (Corresponding member AN SSSR); Novak, I. I.;
 Vettegren', V. I.

TITLE: Investigation of mechanochemical changes in polyethylene by infrared spectroscopy

SOURCE: AN SSSR. Doklady*, v. 157, no. 8, 1964, 1431-1433

TOPIC TAGS: polyethylene, mechanochemical change, infrared spectroscopy, structure change, macromolecular destruction, polymer composition, IR spectra

ABSTRACT: The IR spectroscopic method was used to determine the changes in the chemical structures in polyethylene caused by mechanical forces. Low and high pressure polyethylene films of different thicknesses were subjected to highly elastic deformation, rupture under static or dynamic loading, and planing in air and in liquid nitrogen. The intensities of the 1710, 1735 and 1742 cm^{-1} bands, indicating acid, aldehyde and ester groups, increased upon repeated deformation with increasing temperature. Thus highly elastic deformation is not only a rheological process but also the destruction of the macromolecules and change in the

Card 1/2

L 16440-65

ACCESSION NR: AP4044886

chemical composition of the polymer. Similar mechanical chemical changes occurred in oriented polymer where the deformation was small. It was noted the IR spectra obtained from these mechano-chemical effects differed from spectra of thermal and radioactive polymer destruction. Orig. art. has: 1 table and 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR
(Physical Technical Institute Academy of Sciences SSSR)

SUBMITTED: 27Apr64

ENCL: 00

SUB CODE: GC, MT

NO REF SOV: 004

OTHER: 002

Card 2/2

L 61053-65 ENT(m)/ENT(v)/ENT(j)/T Po-4 RM
 ACCESSION NR: AP5016506

UR/0190/65/007/006/1027/1029
 678.01:53+678.675

AUTHORS: Novak, I. I.; Vettegren, V. I.

TITLE: Effect of orientation on the crystallinity of caprone

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 6, 1965, 1027-1029

TOPIC TAGS: oriented polymer, resin, caprone, synthetic fiber, infrared spectroscopy

ABSTRACT: The effect of orientation on the crystallinity of caprone was studied with the view of elucidating the molecular mechanism of polymer orientation and the effect of the latter on the mechanical properties of polymers. The degree of crystallinity K for oriented and nonoriented caprone fibers was derived from dilatometric measurements and IR spectroscopy. By correlating dilatometric data with the absorption spectra, an expression for K is derived which expresses K as a function of absorption. It was found that the change in crystallinity re-

ON THE ENCLOSURE. 44,55
Card 1/3

L 61053-65

ACCESSION NR: AP5016506

44,55 44,55 9
interpretation of experimental results and B. Ya. Levin and A. V. Savitskiy for
the caprone fiber specimen. Orig. art. has: 3 graphs.

ASSOCIATION: Fiziko-tekhnicheskii institut im. A. F. Ioffe (Physico-Technical
Institute) 44,55

SUBMITTED: 13Jul64

ENCL: 01

SUB CODE: MT, OC

NO REF SOV: 004

OTHER: 005

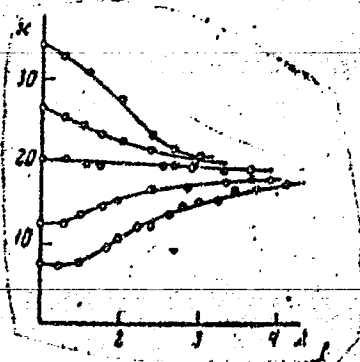


Fig. 1.
Dependence of X , the degree of crystallinity, on the relative
elongation λ

Card 3/3

L 61846-65 EWT(m)/EWG(v)/EWP(j)/T Pc-4/Pe-5 JAJ/RM

ACCESSION NR: AP5018430

UR/0190/65/007/007/1203/1207 25
678.01:53 24
B.

AUTHOR: Zhurkov, S. N.; Novak, I. I.; Levin, B. Ya.; Savitskiy, A. V.; Vettergren', V. I.

TITLE: Relationship between the strength of a polymer and its molecular orientation

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 7, 1965, 1203-1207

TOPIC TAGS: capron fiber, polycapraamide fiber, polymer molecular orientation, polymer property

ABSTRACT: The tensile strength of capron (polycapraamide) fibers was studied as a function of the molecular orientation. The fibers were formed from the melt, then oriented by uniaxial stretching at temperatures from 20 to 200° C. The molecular orientation of the polymer chains was determined from polarized infrared spectra. The orientation factor $\cos^2\theta$ of segments in the amorphous and crystalline phases was measured. The correlation observed between the strength of the fiber and the orientation of the molecular chains in the amorphous portions, determined by $\cos^2\theta$, leads to the conclusion that the amorphous portions of the polymer constitute

to the conclusion that the disordered amorphous regions

Card 1/2

L 61848-65

ACCESSION NR: AP5018430

weak spots which are responsible for the strength of the fiber. The tensile strength of the fibers is a linear function of the orientation of the segments in the amorphous regions, measured by the factor $\cos^2\theta$; the tensile strength is given by the product of the concentration of these segments N by $\cos^2\theta$. Values of the structurally sensitive coefficient γ were determined from the tensile strength data, and the relation $\gamma = f(N \cos^2\theta)$ was plotted; it was found that γ varies in accordance with a hyperbolic law and undergoes little change at high degrees of stretch-

ing. Orig. art. has: 5 figures and 6 formulas.

ASSOCIATION: Fiziko-tekhnicheskii institut im. A. F. Ioffe AN SSSR (Physicotechnical Institute, AN SSSR)

SUBMITTED: 03Aug64

ENCL: 00

SUB CODE: MT, DC

NO REF SOV: 008

OTHER: 000

Card 2/2

VOVAK, I. L.

SOV/200

1956

Doklady Akad. Nauk SSSR, 1956, 1959.

chaskiy Institut.

Abramov, V. G.

Ryankin, S. M.

Frolov, E. A.

Chetayev, G. Ye.

and physicists.

is of the Third All-Union Conference on Mathematical Physics, July 1956. The first part contains summaries of the papers presented at the Conference. The second part contains the text of the report of the editor of the non-Soviet edition of the journal, the title of which is given in a previous issue. The papers, which are the result of the work of the Soviet mathematicians, are devoted to the theory of mathematical physics, and the

188

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probability

continuous

of evaluations

191

192

Generalized

192

S/035/62/000/008/054/090
A001/A101

AUTHOR: Novak, I. P.

TITLE: On the sources of physico-mathematical and philosophical views
of N. I. Lobachevskiy

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 8, 1962, 7,
abstract 8G58 (Uch. zap. Kazakhsk. un-ta, 1959, v. 40, 105 - 130)

TEXT: Great practical importance of geodesy was the cause of an especial
role of geometry among the mathematical sciences. It is pointed out that the
land surveyor S. S. Shebarshin had a certain influence on the education of Lo-
bachevskiy. The list is given of geodetic literature, information on which is
contained in Lobachevskiy's note-book. ✓

O. Sh.

[Abstracter's note: Complete translation]

Card 1/1

TSYGODA, I.M.; KAZAKOV, V.N.; KOLESHNIKOV, N.A.; BRYUKHANOV, N.G.; BURBA, A.A.;
SADYKOV, V.I.; PIGAREV, A.D.; Prinimali uchastiye: PECHENKIN, S.N.;
GLAZACHEV, G.M.; KHVESYUK, F.I.; KODINTSEV, A.V.; YERGALIYEV, E.Ye.;
YERMAKOVA, Z.S.; NOVAK, I.V.; KHIL'KO, I.Ye.; LYASHEVSKIY, R.A.; PROKHOROV,
A.I.; CHERTOVA, N.G.; URUBKO, V.N.; KUGUCHEV, V.V.

Industrial testing of a flow sheet for the processing of Altai complex
metal ores along the lines of the flow sheet used at the Mednegorskiy
Combine. TSvet. met. 36 no.12:12-15 D '63. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy gorno-metallurgicheskiy institut
tsvetnykh metallov (for Pechenkin, Glazachev, Khvesyuk, Kodintsev). 2.
Irtyskiy polimetallicheskiy kombinat (for Yergaliyev, Yermakova). 3.
Mednogorskiy medno-gornyy kombinat (for Novak, Khil'ko, Lyashevskiy,
Prokhorov, Chertova, Urubko, Kuguchev).

The ...
being ...
PR. PR. Praha. No. 1, 1941.

Section. East European Accessions List. (1941, Library of Congress)
Vol. 5, no. 12, December 1946.

NOV 1, 1964

During the period from 11/1/64 to 11/15/64, the following

of the most urgent and important, the following, the following, the following

NOVAK, J.

"Combustion of substitute fuels in cast-metal boilers intended to operate on coke. (To be contd.)

Paliva, Praha, Vol 34, No 4, May 1964, p. 157

33: Eastern European Accessions List, 1964, No 1, Oct 1964, Lib. of Congress

NOVAK, J.

"Burning Substitute Fuels in Cast-Iron Boilers Meant for Coke." p. 151, Praha, Vol. 34, no. 6, June 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

W. J. J. J. J. J.

On the utilization of the ...
radioactive technique ...
Prague, ... June ...

On the ...
Vol. 5, ... December 1966.

STYAN, J.

Meeting of experts on the utilization of low-quality fuels at the Economic
Commission for Europe. p. 67.

Vol. 30, no. 2, Feb. 1956

PALENA

Praha, Czechoslovakia

Source : East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

NOVAK, J.

Plan for protective pillar drawing in Ostrava-Karvina coal mines. p. 202.

UHLI. (Ministerstvo paliv) Praha, Czechoslovakia. Vol. 1, no. 6, June 1959

Monthly list of East European Accessions (EEAI), Vol. 9, no. 1, Jan. 1960

Uncl.

NOVAK, J.

"Study about the economic indicators of processing solid fuels in Czechoslovakia from the point of view of power technology." P. 113.

PALIVA. (Ministerstvo paliv a Ceskoslovenska vedecka technicka spolecnost pro byuziti paliv pri Ceskoslovenske akademii ved). Praha, Czechoslovakia, Vol. 39, No. 4, Apr. 1959.

Monthly list of East European Accessions (EEA1), LC, Vol. 8, No. 1, August 1959.
Uncla.

NOVAK, J.; LUDVIK, V.; NADENIK, O.

laboratory research on accelerated coal carbonization by
solid heat carrier. Prace Ust paliv vol. 7:76-121 '64.

NOVAK, J.; NADEMYNSKY, M.

Economical operation and control of ash disposal systems. p. 338.
(Strojirenstvi, Vol. 7, No. 5, May 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EE.I) LC, Vol. 6, No. 8, Aug 1957. Uncl.

NOVAK, J.

TECHNOLOGY

Periodical: SDELOVACI TECHNIKA. Vol. 6, no. 11, Nov. 1958.

NOVAK, J. Czechoslovak receivers equipped with very high-frequency receiving unit.
p. 403.

Monthly List of East European Accession (EEAI) LC, Vol. 8, no. 3
March 1959 Unclass.

NOVAK, J.

✓ 6375. NEUTRALIZATION OF AN ADDITIVE MIXER. J. Novák. 621.394.621 2
Slaboproudý Obzor, Vol. 14, No. 8, 490-6 (1958). In Czech.

CE
1/1
Considers a double-triode input unit of a ultrashort-wave receiver. The unit consists of a neutralized amplifier stage and an additive mixer. The amplifier is coupled inductively to the aerial and has a resonant circuit in the anode. The signal from the anode of the amplifier is applied to the input of the mixer which operates as a tuned-grid oscillator. It is shown that the input of the amplifier and the mixer are arranged in the form of bridge networks in order to eliminate radiation from the oscillator. The mixer-oscillator contains a tuned i.f. circuit in its anode. Analysis shows that the anode-grid capacitance of the valve, in the presence of the tuned circuit, can result in undamping and instability of the mixer. A bridge-type neutralization procedure is therefore adopted. The formulae provided can be used to evaluate the required neutralizing capacitance. R. S. Sidorenko

MCVAK, J.

THOMAS LEVY

Periodicals: Energetika V 1. 9, no. 2, Feb. 1952.

MCVAK, J. Calculation of pipe resistance during hydraulic-ash removal. p. 12

Monthly List of East European Accessions (ELIA) LC Vol. 8, No. 5,
May 1952, Unclass.

NOVAK, J.

Hydraulic transportation and its use. p. 264. (Strojirenstvi, Vol. 2, No. 4, Apr 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

NOVAK, J.

"Speed in the hydraulic transportation of materials in pipelines."
p. 198.

STROJIRENSTVI. (Ministerstvo tezkého strojírenství, Ministerstvo
presného strojírenství a Ministerstvo automobilového průmyslu a
zemědělských strojů). Praha, Czechoslovakia, Vol. 9, No. 3, Mar. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,
August 1959.
Uncla.

NEVAY, J.

Comment on the importance of concentration in hydraulic transportation. n. 408.

(Strojirenstvi. Vol. 7, n . 6, June 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

Novak, J.

Strojinstvi (Machinery)
Vol. 8, No. 3, 20. March 1958

Novak J. Some remarks upon the design
of pumps for hydraulic transport

Strojinstvi, Vol. 8, No. 3, 1958, p. 167, 168, 172

The author underlines some specific features of pumps designed for hydraulic conveying systems and explains reasons why the principles adopted and incorporated in pumps delivering pure liquids cannot be applied to pulp pumps. Formulae determining the work of pulp pumps are given together with instruction, how the operation should be controlled to eliminate trouble and failures. The article contains useful information concerning the types of pumps which find at present ever increasing application.

2
1-4E2d

16

NOVAK, J., inz., kandidat technických ved.

Hydromechanics. Nova technika no.11:502-503 E '60.

HADEMLYNSKY, Z., inz.; NOVAK, J., inz., C.Sc.

A new type of flowmeters. Strojirenstvi 12 no.8:620-623
Ag '62.

NOVAK, J., Inz., SoC.

Calculation of the potential composition of cement clinkers.
Stavivo 41 no.5:120-183 My '63

1. Vyzkumny ustav stavebnich hmot, Brno.

NOVA, J., Inc.

quality of forgings of turbine and induction shafts; discussion.
El tech obzor 53 no. 80.39-441 p. 164.

18

On the Problem of Flakes in Steel. J. Novák. (Hutnicko listy, 1949, vol. 4, Oct., pp. 1274-1281. [In Czech]. Commenting on a paper by F. Kinský, the author states that methods of preventing flakes in steels recommended by individual authors apply only to a narrow range of conditions and may fail if conditions are different. Data are given on the influence of forging on flake formation and reliability of six different steels. Attention is drawn to the influence

of weather on the formation of flakes in steel, e.i., the influence of the season of the year. Investigations of N. M. Tschuko and A. I. Lowowa (Stahl und Eisen, 1938, vol. 52, Nov. 10, p. 1297) are quoted and it is stated that the results obtained by them have been confirmed by investigations at the Skoda Works during 1947 and 1948. A graph summarizing these results is included.

E.G.

458-11A METALLURGICAL LITERATURE CLASSIFICATION

NOVAK, J.

Peening metal in large furnaces. p. 267.

Vol. 5, no. 4, Sept. 1955

HOLNIA

Praha, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

NYAC, J.

"Forged rotors for turbogene rotors of vanadium steels."

HETLICKÉ LISTY, Brno, Czechoslovakia, Vol. 11, No. 5, May 1959.

Monthly List of East European Accessions (MEMI), 18, Vol. 8, No. 9, September 1959.

Unclassified.

AUTHOR: Novák, Jiří, Ing. CZECH/34-59-5-10/19
TITLE: Forgings of Rotors for Turbo-Generators by Means of
Vanadium Alloyed Steels (Výkovky rotorů pro turbo-
generátory z oceli legovaných vanadem)
PERIODICAL: Hutnické Listy, 1959, Nr 5, pp 436-442 (Czechoslovakia)
ABSTRACT: The Škoda Works developed Ni-V steels (2% Ni, 0.20% V)
for manufacturing forgings for turbines and they are
using this steel even for very large forgings. The
strength indices of this steel are slightly lower than
of the currently used Cr-Ni-Mo steel but this is more
than compensated by the fact that the developed Ni-V
steel has a pearlitic structure and not a sorbitic one.
Rotors produced from this steel proved extremely reliable,
much more so than rotors produced from Cr-Ni-Mo steel.
In the period 1954 to 1958 the quantity of rejects did
not exceed 3%. The forging technology applied at the
Škoda Works, Pilsen is briefly described and illustrated
by a system of sketches, with dimensions, which show
the individual operations of forging a 50 MW rotor (Fig 11).
The guiding principle of the forging operation is to
select the ingot of the smallest size for a given purpose

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CZECH/34-59-5-10/19

Forgings of Rotors for Turbo-Generators by Means of Vanadium
Alloyed Steels

and to forge it through thoroughly by alternating forging operations, to make the blank longer with upsetting operations. In the case of tempering temperatures of about 600°C the internal stresses in Ni-V steels are so low that they can practically be disregarded. Stabilisation annealing proved superfluous even for large rotors intended for 50 MW generators. Fig 14 shows the graph of the heat treatment of a rotor 835 mm dia. Testing of the rotor material is in accordance with the procedure developed by the Škoda Works and consists of testing with ultrasonics prior to boring and final heat treatment. Equally, prior to the final heat treatment, magnetic testing for defects is carried out, paying particular attention to the transition points from the body of the rotor to the shaft. Deep radial drilling is effected only in cases in which serious material defects are suspected on the basis of ultrasonic tests. The distribution of the spots to be drilled is based on the practice used by Siemens-Schuckert and illustrated ✓

Card 2/3

CZECH/34-59-5-10/19

Forgings of Rotors for Turbo-Generators by Means of Vanadium
Alloyed Steels

by a sketch (Fig 16). The sketch, Fig 15, shows the distribution of the spots from which specimens are taken normally, i.e. irrespective of whether defects are or are not suspected. The axial bore hole is inspected after rough boring and also after finish machining of the bore. The author suggests that a unified test procedure should be agreed on which would be generally accepted in all Soviet Bloc countries.

There are 16 figures, 5 tables and 18 references, 4 of which are Czech, 4 Soviet, 3 English, 6 German and 1 French.

ASSOCIATION: Závody V. I. Lenina, Plzeň (V. I. Lenin Works, Pilsen)

SUBMITTED: March 7, 1959

Card 3/3

NOVAK, J.

36

PHASE I BOOK EXPLOITATION

SOV/5799

Unksov, Ye.P., Doctor of Technical Sciences, Professor, Ed.

Sovremennoye sostoyaniye kuznechno-shtampovogochnogo proizvodstva (Present State of the Pressworking of Metals) [Moscow] Mashgiz, 1961. 494 p. 5000 copies printed.

Ed. of Publishing House: A.I. Sirotin; Tech. Ed.: B.I. Medel'; Managing Ed. for Literature on the Hot Working of Metals: S.Ya. Golovin, Engineer.

Title: Kuznechno-shtampovogochnoye proizvodstvo v SSSR (The Pressworking of Metals in the USSR) by: A.V. Altykis, D.I. Bereshkovskiy, V.P. Volkovitskiy, I.I. Girsh (deceased), L.D. Gol'man, S.P. Granovskiy, M.S. Dobrinskiy, A.I. Zimin, S. L. Zlotnikov, A.I. Kagalovskiy, P.V. Lobachev, V.N. Martynov, Ye.N. Moshnin, G.A. Navrotsky, Ya.M. Okhrimenko, G.M. Rovinskiy, Ye.A. Stocha, Yu.L. Rozhdestvenskiy, N.V. Tikhomirov, Ye.P. Unksov, V.F. Shecheglov, and L.A. Shofman; Eds: Ye.P. Unksov, Doctor of Technical Sciences, Professor, and B.V. Roznov.

Title: Kuznechno-shtampovogochnoye proizvodstvo v ChSSR (The Pressworking of Metals in the Czechoslovak SR) by: S. Burda, F. Brazdil, F. Drastik, F. Zlatohlavek

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SCV/5799

Present State of the (Cont.)

Z. Kejval, V. Krauz, P. Kupka, Z. Majer, K. Marvan, J. Novak, J. Odhnal,
K. Paul, B. Seamer, M. Hont, J. Chlupka, V. Sindelar, and J. Solc; Eds.:
A. Nejedly and M. Vlk.

PURPOSE: This book is intended for engineers and scientific personnel concerned with the pressworking of metals.

COVERAGE: Published jointly by Mashin and SMTL, the book discusses the present state of the pressworking of metals in the USSR and the Czechoslovak Socialist Republic. Chapters were written by both Soviet and Czechoslovak writers. No personalities are mentioned. There are 129 references: 98 Soviet, 16 English, 8 German, 5 Czech, and 2 French.

TABLE OF CONTENTS:

PRESSWORKING IN THE USSR

Ch. I. The Characteristics of Forging Shops in USSR Plants (A.I. Zimin and Ye.P. Unksov) 5

Ch. II. Methods of Calculating the Pressure for Forging in the Pressworking

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Present State of the (Cont.)	GOV/5799	
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Ch. IV. Die Forging on Horizontal Upsetters [I.I. Girsh, deceased]		31
Ch. V. Die Forging on Drop Hammers and [Power-Screw] Percussion Presses [Ya. M. Okhrimenko and V.F. Shcheglov]		41
Ch. VI. The Making of Forgings and Shaped Blanks in Forging Rolls [V.N. Martynov]		58
Ch. VII. Die-Sizing in Squeeze-Forming Presses [V.F. Volkovitskiy]		77
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Ch. IX. The Manufacture of Metal Hardware on Pressworking Automatics [G.A. Navrotsky]		93

Card 3/8

Present State of the (Cont.)

SOV/5799

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Ch. XI. Stamping From Sheets and Strips [B.L. Zlotnikov and G.H. Rovinskiy]	119
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